**IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
WACO DIVISION**

NEONODE SMARTPHONE LLC,
 	
      Plaintiff,
v.
 	
SAMSUNG ELECTRONICS CO. LTD, and
SAMSUNG ELECTRONICS AMERICA,
INC.,
 	
      Defendant.
	CIVIL NO. 6:20-CV-00507-ADA
	
	JURY TRIAL DEMANDED

**DECLARATION OF CRAIG ROSENBERG IN SUPPORT OF
PLAINTIFF'S OPENING CLAIM CONSTRUCTION BRIEF**

I, Craig Rosenberg hereby declare as follows:

1.   I have been retained as an expert witness on behalf of Neonode Smartphone LLC ("Neonode" or "Plaintiff") in the above-referenced litigation. I understand that this declaration is submitted in support of Plaintiff's Opening Claim Construction Brief.

2.   This declaration sets forth the basis and reasons for my opinions as to whether and how a person of ordinary skill in the art would understand certain claim terms of the No. 8,095,879 (the "'879 Patent").

3.   This declaration is based on the information available and known to me as of the date of this declaration, including the '879 Patent and its file history and any other documents referenced in this Declaration. It may be necessary for me to supplement this declaration based on material that subsequently comes to light in this case, and I reserve the right to do so.

4.   I have no financial interest in the outcome of this case, in any of the parties of this case, or in any party that is related to the parties in this case. I am being compensated at the rate of $450 per hour. My compensation is unrelated to the outcome of this litigation.

I.   BACKGROUND AND QUALIFICATIONS

5.   All of my opinions stated in this declaration are based on my own personal knowledge and professional judgment. In forming my opinions I have relied on my knowledge and experience in human factors, user interface design, user interaction design, human-computer interaction, and software engineering.

6.   My qualifications to testify about the '879 Patent and the relevant technology are set forth in my curriculum vitae ("CV"), which I have included as **Appendix A**. In addition, a brief summary of my qualifications is included below:

7.   I hold a Bachelor of Science in Industrial Engineering, a Master of Science in Human Factors, and a Ph.D. in Human Factors from the University of Washington School of Engineering. For 30 years, I have worked in the areas of human factors, user interface design,

software development, software architecture, systems engineering, and modeling and simulation across a wide variety of application areas, including aerospace, communications, entertainment, and healthcare.

8.   I graduated from the University of Washington in 1988 with a B.S. in Industrial Engineering. After graduation, I continued my studies at the University of Washington. In 1990, I obtained an M.S. in Human Factors. In 1994, I graduated with a Ph.D. in Human Factors. In the course of my doctoral studies, I worked as an Associate Assistant Human Factors Professor at the University of Washington Industrial Engineering Department. My duties included teaching, writing research proposals, designing and conducting funded human factors experiments for the National Science Foundation, as well as hiring and supervising students. While studying Industrial Engineering at the University of Washington, I took classes in software engineering and developed software as well as user interfaces for the software. I also was a consultant to a company, building custom software that calculated stresses and strains on concert lighting support cables. I also worked as a human factors researcher at the University of Washington and designed and performed advanced human factors experiments relating to virtual environments and interface design, stereoscopic displays, and advanced visualization research, which was funded by the National Science Foundation. My duties included user interface design, systems design, software development, graphics programming, experimental design, as well as hardware and software interfacing.

9.   I have published twenty-one research papers in professional journals and proceedings in the areas of user interface design, computer graphics, and the design of spatial, stereographic, and auditory displays. I also authored a book chapter on augmented reality displays in the book "Virtual Environments and Advanced Interface Design" (Oxford University Press, 1995). In addition, I created one of the first virtual spatial musical instruments called the MIDIBIRD that utilized the MIDI protocol, two six-dimensional spatial trackers, a music

synthesizer, and a computer graphics workstation to create an advanced and novel musical instrument.

10.   For the past 21 years, I have served as a consultant for Global Technica, Sunny Day Software, Stanley Associates, Techrizon, CDI Corporation, and the Barr Group. As a consultant for these organizations, I have provided advanced engineering services for many companies.

11.   I consulted for the Boeing Company for over 15 years as a senior human factors engineer, user interface designer, and software architect for a wide range of advanced commercial and military programs. Many of the projects that I have been involved with include advanced software development, user interface design, agent-based software, and modeling and simulations in the areas of missile defense, homeland security, battle command management, computer aided design, networking and communications, air traffic control, location-based services, and Unmanned Aerial Vehicle ("UAV") command and control. Additionally, I was the lead system architect developing advanced air traffic controller workstations and air traffic control analysis applications, toolsets, and trade study simulations for Boeing Air Traffic Management.

12.   I was also the architect of the Boeing Human Agent Model. The Boeing Human Agent Model is an advanced model for the simulation of human sensory, cognitive, and motor performance as applied to the roles of air traffic controllers, pilots, and UAV operators. In another project, I was the lead human factors engineer and user interface designer for Boeing's main vector and raster computer aided drafting and editing system that produces the maintenance manuals, shop floor illustrations, and service bulletins for aircraft produced by the Boeing Commercial Aircraft Company. Additional responsibilities in my time as a consultant include system engineering, requirements analysis, functional specification, use case development, user stories, application prototyping, modeling and simulation, object-oriented software architecture, graphical user interface analysis and design, as well as UML, C++, C#, and Java software development.

4

13.   In 1995 and 1996, I was hired as the lead human factors engineer and user interface designer for the first two-way pager produced by AT&T. Prior to this technology, people could receive pages but had no way to respond utilizing their pager. This new technology allowed users to use a small handheld device to receive and send canned or custom text messages, access and update an address book, and access and update a personal calendar. This high-profile project involved designing the entire feature set, user interface/user interaction design and specification, as well as all graphical design and graphical design standards.

14.   From 1999-2001, I was the lead human factors engineer and user interface designer for a company called Eyematic Interfaces, and was responsible for all user interface design and development activities associated with real-time mobile handheld 3D facial tracking, animation, avatar creation and editing software for a product for Mattel. My work involved user interface design, human factors analysis, requirements gathering and analysis, and functional specifications.

15.   In 2001, I was the lead user interface designer for a company called Ahaza that was building IPv6 routers. I designed the user interfaces for the configuration and control of these advanced network hardware devices. My responsibilities included requirements analysis, functional specification, user interface design, user experience design, and human factors analysis.

16.   In 2006-07, I was the lead user interface designer for a company called ObjectSpeed that developed a portable handheld telephone for use in homes and businesses that had many of the same capabilities that we take for granted in mobile cellular phones. This portable multifunction device supported voice, email, chat, video conferencing, internet radio, streaming media, Microsoft Outlook integration, photo taking and sharing, etc. The ObjectSpeed device was specifically designed and developed as a portable handheld device.

17.   I am the founder, inventor, user interface designer, and software architect of WhereWuz. WhereWuz is a company that produces advanced mobile software running on GPS-enabled smartphones and handheld devices. WhereWuz allows users to record exactly where they

5

have been and query this data in unique ways for subsequent retrieval based on time or location. WhereWuz was specifically designed and developed to run on small handheld devices.

18.   I am the co-founder of a medical technology company called Healium. Healium developed advanced wearable and handheld user interface technology to allow physicians to more effectively interact with electronic medical records.

19.   I am the co-founder of a medical technology company called StratoScientific. StratoScientific is developing an innovative case for a smartphone that turns a standard handheld smartphone into a full featured digital stethoscope that incorporates visualization and machine learning that can be utilized for telemedicine and automated diagnosis.

20.   In 2012-13, I designed and developed a large software project for Disney World called x VR that allowed the operational employees of Disney World to utilize a handheld device to view the current and historical status of all of the guests of Disney World within multiple attractions as well as within one of their restaurants. The application could run in a real-time/live mode where it would display data collected from sensors that showed the location and status of all guests within the attraction; the application could also be run in a fast-time/simulated mode. The application was developed on a laptop computer and was specifically designed to run on a variety of devices, including laptops, PCs, smartphones, and tablets.

21.   I have received several awards for my engineering work relating to interface design, computer graphics, and the design of spatial, stereographic, and auditory displays, including a $10,000 scholarship from the I/ITSEC for advancing the field of interactive computer graphics for flight simulation and a Link Foundation award for furthering the field of flight simulation and virtual interface design. I have also created graphics for several popular book covers as well as animations for a movie produced by MIRAMAR.

II.   LEGAL STANDARDS

22.   I am not a lawyer and offer no opinions on the law. However, I have been informed and am aware of legal standards that are relevant to my analysis.

23.   I have been informed that to determine the meaning of the claims, courts consider the intrinsic evidence, which includes the patent's claims, written description, prosecution history, materials incorporated by reference in the patent, and prior art cited in the patent or its prosecution history. Courts give claim terms their ordinary and accustomed meaning as understood by one of ordinary skill in the art at the time of the invention in the context of the entire patent. A patentee may also define his or her own terms or disclaim claim scope. The intrinsic record may also resolve ambiguous claim terms where the ordinary and accustomed meaning of the words used in the claims lack sufficient clarity to permit the scope of the claim to be ascertained from the words alone. However, I understand that particular embodiments and examples appearing in the specification will not generally be read into the claims. A term's context in the asserted claims can also be helpful. Differences among the claim terms can also assist in understanding a term's meaning. For example, when a dependent claim adds a limitation to an independent claim, it is presumed that the independent claim does not include the limitation.

24.   I further understand that extrinsic evidence can be useful in determining the meaning of claim terms. For example, technical dictionaries may be useful to show the manner in which one skilled in the art might use claim terms, but technical dictionaries may provide definitions that are too broad or may not be indicative of how the term is used in context in the patent.

25.   I have been informed that a patent specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his or her invention. I understand that a claim which fails to meet this standard is invalid

as indefinite. I understand that patent claims are presumed valid, and clear and convincing evidence is required to establish that a patent is invalid because it is indefinite.

26.   I understand that indefiniteness is to be evaluated from the perspective of a person of ordinary skill in the art (a "POSITA") at the time of the patent's filing. I understand that a patent is invalid for indefiniteness if its claims, read in light of the specification delineating the patent, and the prosecution history, fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention. I further understand that absolute or mathematical precision in claim language is not required, and that claim language employing a term lacking a precise boundary will not be found indefinite where it provides sufficient certainty to a POSITA when read in the context of the invention.

III.   **The '879 Patent**

A.   **Summary of the '879 Patent**

27.   The '879 Patent "relates to a user interface for a mobile handheld computer unit, which computer unit comprises a touch sensitive area, and which touch sensitive area is divided into a menu area and a display area." Ex. 1 ('879 Patent) at 1:6-9. The patent describes a computer unit that is adapted to run several applications simultaneously and to present any active applications on top of any other application on the display area ('879 Patent at 1:10-13). The patent is directed "to provid[ing] a user-friendly interface that is adapted to handle a large amount of information and different kinds of traditional computer-related applications on a small handheld computer unit." ('879 Patent at 49-52.)

28.   In one embodiment, the '879 Patent describes a touch sensitive area, in which the touch sensitive area is divided into a menu area and a display area. The menu area is adapted to present a representation of a first, a second, and a third predefined function. The first function (element 21) is a general application dependent function, the second function (element 22) is a keyboard function, and the third function (element 23) is a task and file manager:
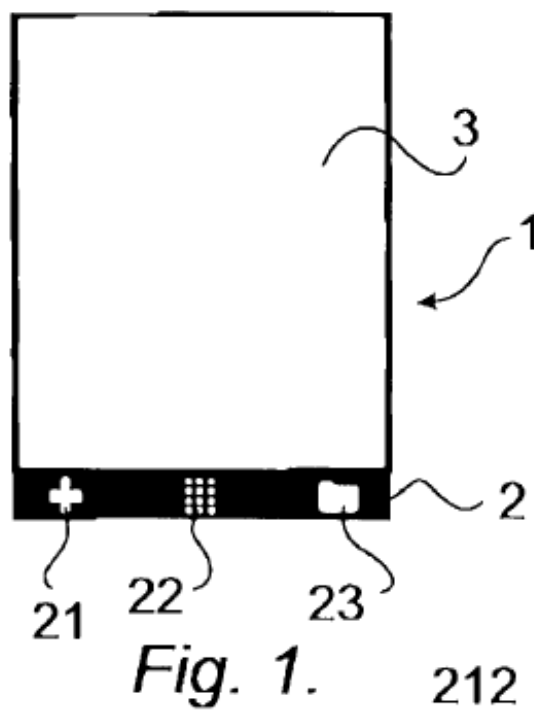
Fig. 1.

Ex. 1, Fig. 1. As depicted in Figure 2, the functions are activated "when the touch sensitive area 1 detects a movement of an object 4 with its starting point A within the representation of a function on the menu area 2 and with a direction B from the menu area 2 to the display area 3."
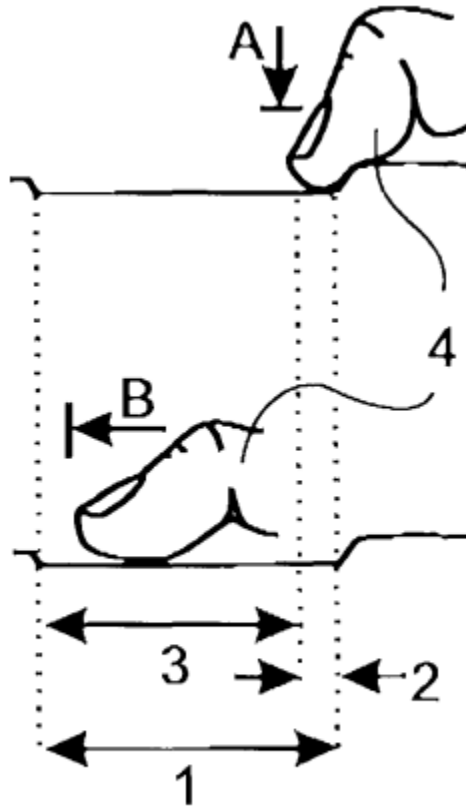

Fig. 2.

Ex. 1, Fig. 2.

B.   Level of Ordinary Skill in the Art

29.   I have been informed that a POSITA is a hypothetical person who has full knowledge of all the pertinent prior art. I understand that courts may consider the following factors in determining the level of skill in the art:

1. Type of problems encountered in art;

2. Prior art solutions to those problems;

3. Rapidity with which innovations are made;

4. Sophistication of the technology; and

5. Educational level of active workers in the field.

30. In determining the characteristics of a POSITA at the time of the claimed invention, I considered each of these factors. Additionally, I understand that the level of ordinary skill in the art must be assessed at the time of the invention and that I should place myself back at the priority date of the '879 Patent (December 10, 2002) to determine the level of ordinary skill in the art.

31. For the purposes of this declaration, I have applied the same definition as I applied before the United States Patent and Trademark Office Patent Trial and Appeal Board ("PTAB") during *inter partes* review proceedings concerning the '879 Patent, which is that a POSITA as of December 10, 2002, would have at least a bachelor's degree in computer science, human-computer interaction, symbolic systems, or related engineering disciplines, and at least two years of experience designing and programming graphical user interfaces. In my opinion, relevant work experience can substitute for formal education, and advanced degree studies could substitute for work experience.

32. I further understand that Dr. Cockburn has applied a different understanding regarding the level of ordinary skill of a POSITA in his Declaration. Ex. 2 (Cockburn Decl.) at ¶ 35. If the court decides to adopt Dr. Cockburn's definition of a POSITA, I would qualify as a POSITA under his definition as well, and my opinions as stated in this declaration would remain valid. To the extent that the Defendants or Dr. Cockburn modifies their view of the level of ordinary skill in the art, I reserve the right to respond to the extent that that modified opinion differs from mine.

33. I consider myself a person with at least ordinary skill in the art with respect to the '879 Patent at the time of its priority date. I also had (and have) greater knowledge and experience than a POSITA. I worked with POSITAs in 2002, and I am able to render opinions from the perspective of a POSITA based on my knowledge and experience.

IV.   CLAIM CONSTRUCTIONS

A.   "the representation consists of only one option for activating the function" (claim 1)

Plaintiff's Proposed Construction	Defendants' Proposed Construction
Plain meaning; no construction necessary.	Indefinite.

34.   It is my opinion that, in view of the intrinsic record, the term "the representation consists of only one option for activating the function" has a plain and ordinary meaning to a POSITA and that no construction is necessary.

1.   The Claim

35.   I have been informed that a phrase, like the present one, must be construed within the context of the claim as a whole. Claim 1 reads as follows:

Ex. 1 at 6:45-59 (annotations added). The highlighting shows certain limitations of the body of the claim, which I have labeled for convenience. In the relevant part, limitation 1[a] recites a representation of a function, limitation 1[b] states a characteristic of the recited representation ("the representation consists of …"), and limitation 1[c] recites how the function is activated.

36.   I also understand that the language "consists of," when used in a patent claim, typically limits the clause (for which it acts as a transition) to only what it is expressly set forth. I

further understand that "a"—which appears in the preceding clause "a touch sensitive area in which a representation of a function is provided"—is presumed to cover "one or more" of whatever the "a" is referring to in the claim.

37.   As I read the claim, the phrase "consists of" in the term "the representation consists of only one option for activating the function" places a limit upon the term "the representation" only as used in limitation 1[b]. The "consists of" phrase does not place a limit upon "a representation" as used in limitation 1[a], and does not place a limit upon the subsequent claim language of limitation 1[c]. A POSITA would not read the "consists of" language of limitation 1[b] to limit the number of functions that may be represented; a POSITA would look to limitation 1[a] ("a touch sensitive area in which a representation of a function is provided") for that aspect of the claim. Ex. 1 at 6:50-54. Likewise, a POSITA would look to the language of limitation 1[c]— "and wherein the function is activated by a multi-step operation comprising (i) an object touching the touch sensitive area at a location where the representation is provided and then (ii) the object gliding along the touch sensitive area away from the touched location"—to understand how the represented function is activated. *Id*. at 6:54-59.

38.   Further, a POSITA would understand the term "the function" in limitation 1[b] to be the same function recited as "a function" in limitation 1[a]. A POSITA would not have reason to believe that the difference of "a" versus "the" with regards to the term "function" would indicate a different function without the claim otherwise providing such a distinction, which it does not. As I understand it, "a" is presumed to cover "one or more." A POSITA would therefore understand claim 1's reference to "a function" to mean one or more function(s). Limitations 1[a] and 1[b], read together, inform a POSITA that while a "representation" may represent more than one "function," it presents to the user only one option for activating one of those multiple functions at any given time.

13

2. The Specification

39.   I understand that the specification is always highly relevant to the claim construction analysis. In the specification, Fig. 1 depicts a user interface that is "adapted to present a representation of a first 21, a second 22 and a third 23 predefined function":
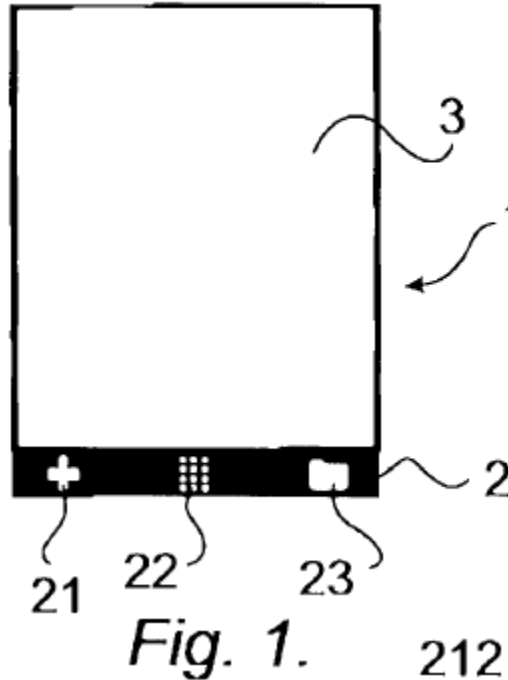
Fig. 1.

Ex. 1 at 4:1-4; Fig. 1. The "first function 21 is a general application dependent function, the second function 22 is a keyboard function, and the third function 23 is a task and file manager." *Id*. A POSITA would understand that the specification provides examples of the representations, which are depicted as graphical elements on the touch sensitive display. *Id*., 4:1-7; Fig. 1.

40.   Figure 2 depicts how the user interacts with the touch sensitive area such that the "three functions 21, 22, 23" can be activated:
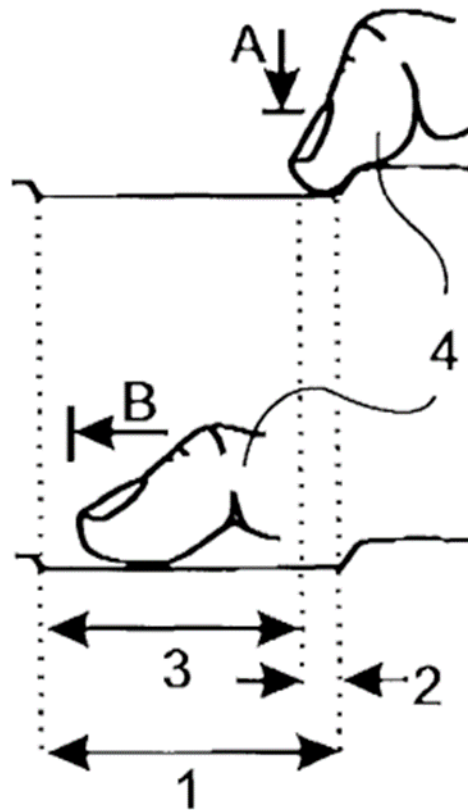
Fig. 2.

Id. at 4:7-11; Fig. 2. As noted above, the functions are activated "when the touch sensitive area 1 detects a movement of an object 4 with its starting point A within the representation of a function on the menu area 2 and with a direction B from the menu area 2 to the display area 3." Ex. 1, 4:8-12.

41.   If the first function 21 is activated, then the display area 3 is adapted to display icons 211, 212, 213, 214, 215, 216 representing services or functions depending on the current active application. *Id.* at 4:13-16. However, "If no application is currently active on the computer unit, then the icons 211, 212, 213, 214, 215, 216 are adapted to represent services or settings of the operations system of the computer unit, such as background picture, clock, alarm 215, users 213, help 211, etc." Ex. 1 at 4:29-33. Thus, representation 21 may represent more than one function, such as that of displaying application-specific icons (*i.e.,* a different set of icons

depending on the active application) or displaying system services or settings icons. Figure 3 illustrates one example of the icons that may be displayed upon activation of function 21:

Fig. 1.

Fig. 3.
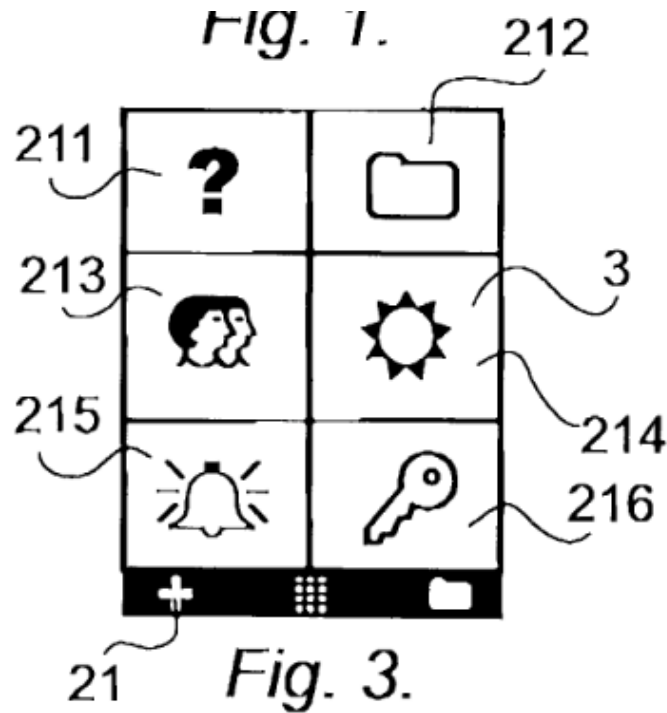
3.   The Prosecution File

42.   I understand that the prosecution file is also part of the intrinsic record. I have reviewed the original prosecution history of the application that issued as the '879 Patent. From that review, it is my opinion that the prosecution history provides additional useful guidance with respect to limitation 1[b].

43.   The applicant amended the claims during prosecution to add the language of limitation 1[b] in order to overcome the Hirshberg reference. Ex 2 (File History) at 207. As depicted in Hirshberg's Fig. 1, Hirshberg disclosed a multifunction keypad on a touchscreen that included "thirteen 4-way soft keys (*e.g.* keys 100, 102 and 104), one 3-way soft key 106 and one regular one function soft key 108":
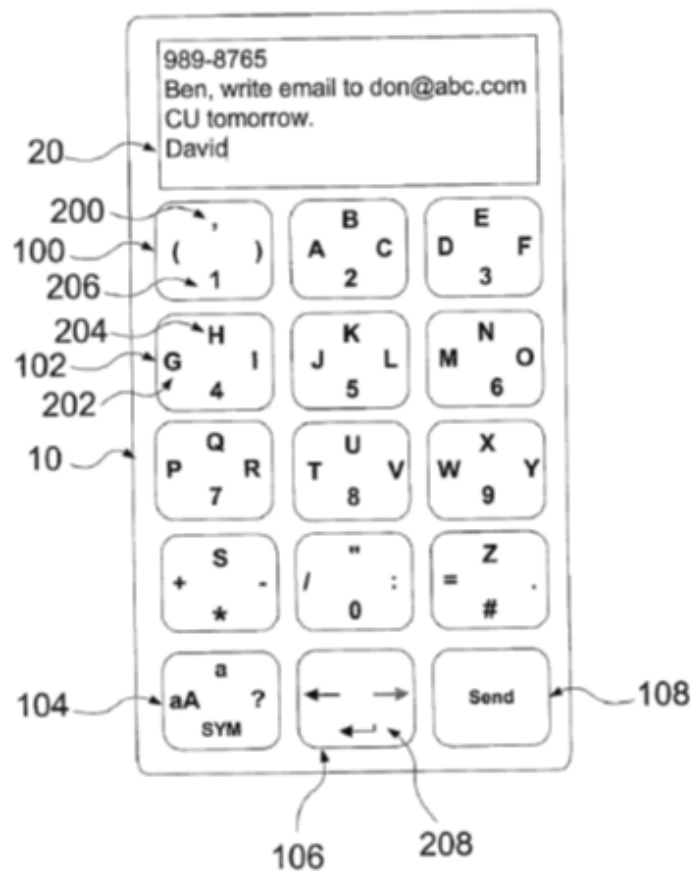
16

Figure 1

Ex. 4 (Hirshberg), ¶ 54 & Fig. 1.

44. Hirshberg taught two ways of interacting with the keys:

> The keys in the keypad can be a mix of regular one-function keys like key 108 with other multi function keys. *In the case of one function* a regular touch operation activate [sic] the function. *In multi-function key* [sic] the first touch on the key activate the key and the relative trace created by the movement or the tilt on the touch with respect to the initial touch point is selecting the appropriate function among the functions that associated with the selected key.

Ex. 4, ¶ 55 (emphasis added).

45.   In response to the examiner's rejection based on Hirshberg, the applicant explained that Hirshberg disclosed: (1) multifunction keys presenting multiple options for activatable functions, in which a function to activate was selected by a directional touch and glide operation; and (2) keys for which a single function is selected on contact with the key, which were activated by a touch operation. Ex. 5 at 199-209. To overcome the rejection, the applicant added the "only

17

one option" language, which narrowed claim 1 to a combination that was **not** disclosed by Hirshberg: a representation that presents only one option for an activatable function at a given time ("representation [that] consists of only one option for activating a function"), which function is activatable by a touch and glide operation.

46.   The applicant's description of the support for the "only one option" limitation confirms this. The applicant explained that the specification discloses that each of representations 21-23 "consists of the one option of" activating a corresponding function. The explanation did not look to **how** the functions were activated, but rather to **how many** functions could be activated at a given time. Ex. 5 at 208. The applicant's reliance on function 21—a "general application dependent function" that can cause the display to present different sets of icons to the user depending on context, such as whether a currently active application is running—makes it clear that the representation presents one option for activating a function **at any given time** (*e.g.*, "displaying icons as appropriate for a **currently active** application."). *Id.*; *see also id*. at 427 ("At any given time, may be used for activating whichever function is touched, from among a plurality of functions."). The final sentence of the explanation, in which the applicant characterized representations 21-23 as "these one-option elements" **before** stating that they were activated by a touch-and-glide operation, reinforces that "only one option" addresses **how many** functions could be activated rather than **how** a function is activated.

47.   I understand that Samsung contends these statements made during prosecution "assert there is only one option (gesture) to activate a representation's corresponding function." Dkt. 71, p. 9. A POSITA would not understand the applicant's statements during prosecution to have such a meaning. As shown above, the applicant never made that argument and never distinguished Hirshberg on that basis.

4.   The IPRs

48.   I understand that there were two *inter partes* review (IPR) proceedings filed concerning the '879 Patent, one filed by Samsung and Apple Inc. (IPR2021-00144) and the other filed by Google LLC (IPR2021-01041). I provided expert opinion testimony on behalf of Neonode in both of these IPRs.

49.   I understand that Samsung and Prof. Cockburn claim that Neonode took inconsistent positions concerning limitation 1[b] in IPR2021-01041 ("the Google IPR"). It is my opinion that Neonode's statements in the Google IPR (IPR2021-01041) are not contradictory or inconsistent either within the Google IPR or with respect to any of the intrinsic evidence, and are fully consistent with the positions that Neonode is taking in this litigation in district court.

50.   As one purported example, Samsung and Prof. Cockburn note that Neonode's counsel informed the PTAB that the "representation presents the user with one option of what to activate," and argues this is inconsistent with Neonode's statement that "we are not arguing that the representation must only have one function." Dkt. 71, p. 10. However, a POSITA would see no inconsistency here. As a POSITA would understand, these statements merely reflect the claim as a whole: a representation may represent multiple functions (as expressed in limitation 1[a]), but the user is presented with only one option among those multiple functions to activate at any given time. Ex. 6 at pp. 10-12.

51.   In this regard, Prof. Cockburn takes one of my statements out of context and ascribes to it an incorrect meaning. He paraphrases ¶105 of my IPR declaration as follows: "there [need] be only a single option with respect to the representation of the function regardless of the direction of 'gliding . . . away.'" Ex. 2, ¶52. He then states that "[a] POSITA would interpret these affirmative statements to mean that for the disputed term, the representation represents only a ***single function***, and allows for ***multiple options*** for how to activate the function." *Id*. (emphasis in original). This is not an accurate interpretation of my statement. I did not address whether "the

representation represents only a single function." Rather, as is clear from the very next paragraph of my declaration, my focus was on the understanding of Google's expert, who incorrectly interpreted "the one-option limitation to require that each function associated with the representation of the function can be activated only by one gesture." Ex. 7 (App'x C to Cockburn Decl.), ¶106.

52.   Prof. Cockburn also claims that Neonode first argued that limitation 1[b] does not require that each function be activated by only one gesture, but then "inconsistently" argued that each function must only be activated by a single gesture. Here, Samsung does not appear to be accurately stating the contents of the record in the Google IPR. In the portion of the Google IPR transcript to which Samsung points, Neonode argued that, while "a representation can at different times have multiple functions," at any given time "the user is given only one option in terms of what to activate and what option to take." Ex. 7 at 73:1-21. Slide 65 of Neonode's demonstrative exhibits, to which Neonode's counsel directed the PTAB judges during this portion of the hearing, made the same point.

'879 Specification: A Representation May Represent Multiple Functions At Different Times, But Always Provides One-Option To The User At Any Time

Patent No.:   US 8,095,879 B2

4

According to the present invention the menu area **2** is adapted to present a representation of a first **21**, a second **22** and a third **23** predefined function.

5   The first function **21** is a general application dependent function, the second function **22** is a keyboard function, and the third function **23** is a task and file manager.

FIG. **2** shows that any one of these three functions **21**, **22**, **23** can be activated when the touch sensitive area **1** detects a movement of an object **4** with its starting point A within the
10   representation of a function on the menu area **2** and with a direction B from the menu area **2** to the display area **3**.

FIG. **3** shows that if the first function **21** is activated, then the display area **3** is adapted to display icons **211**, **212**, **213**,
15   **214**, **215**, **216** representing services or functions depending on the current active application. One of the icons, in the figure exemplified by icon **211**, always represents a "help"-service, regardless of application. Any key that, because of

Fig. 1.
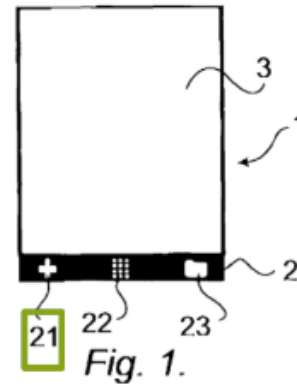
The User Is Provided With Only One Option

neonode   Demonstrative Exhibit – Not Evidence   Sur-Reply, 11   65

Ex. 8 at slide 65. Notably, there is nothing in slide 65 indicating that the "option" is tied to a particular gesture. Rather, Neonode directed the PTAB to element 21, representing the first function 21—a "general application dependent function" that can cause the display to present different sets of icons to the user depending on context. As the caption explains, a representation may represent multiple functions at different times (depending on, *e.g.*, whether an application is currently active), but always provides only one option to the user any given time. The focus is not on ***how*** the user activates a function, but on ***how many*** functions could be activated at any given time (only one).

53.   Neonode reiterated this point in several other slides that it presented to the PTAB during the Google IPR. These include slide 61, in which Neonode characterized as "incorrect" the

assertion that limitation 1[b] requires that "each function is activated by only a single gesture":

Ex. 8 at slide 61.

54.   Similarly, in slide 66, Neonode criticized as incorrect Google's position that "Hirshberg was distinguished because it activated the same function by multiple gestures":

Petitioner Incorrectly Argues That Hirshberg Was Distinguished Because It Activated The Same Function By Multiple Gestures

PETITIONERS' REPLY

Neonode's prosecution history arguments regarding Hirshberg are also unavailing. POR 52 (citing Ex-1002, 542). There, the applicant distinguished Hirshberg because it had multiple options—both glide and "conventional touch"—to activate the same function depending on whether the device is in a single- or multi-function mode. Ex-1002, 541-542. The applicant did not distinguish the claims based on multiple functions with a single activation each. *See* Ex-1002, 540-544.[4]

Reply, 14

neonode   Demonstrative Exhibit – Not Evidence   66

Ex. 8 at slide 66. This, again, makes it clear that limitation 1[b] is not directed to whether a function may be activated by one gesture or multiple gestures.

55.   A POSITA would understand these statements, when read in light of the complete record and in context, to reflect a clear and consistent position on Neonode's part that limitation 1[b] does *not* require that each function be activated by only one gesture. I see no reason to believe that a POSITA would have been in any way confused as to Neonode's position on that issue.

56.   Accordingly, Neonode's arguments during the Google IPR were consistent with one another and with the arguments made during prosecution. The claim language, specification, prosecution file and IPR record provide clear guidance as to the meaning of the limitation: the representation consists of only one option for activating one of the one or more functions at any given time. That is how a POSITA, reviewing all of the intrinsic evidence, would understand limitation 1[b].

4. A POSITA Would Not Read Limitation 1[b] as Subject to Multiple Meanings

57.   Prof. Cockburn (at Ex. 2, ¶44) asserts that limitation 1[b] could have any of three different meanings:

(1) The representation represents a single function and there is only a single option to activate that function (*e.g.*, only one specific input gesture will activate that function);

(2) The representation may represent multiple functions but there is only a single option to activate one particular function (*e.g.*, only one specific input gesture will activate one function, but a different input gesture activates a second function); and

(3) The representation represents a single function and the claim allows multiple options to activate that function (*e.g.*, any input gesture will activate that function).

58.   A POSITA would not understand limitation 1[b] to have any of Samsung's proposed meanings. First, as discussed above, a POSITA would understand what limitation 1[b] means—the representation consists of only one option for activating one of the one or more functions at any given time—and none of Samsung's three proposed meanings is fully consistent with that construction,

59.   In addition, as is clear from the discussion above, neither the applicant nor Neonode ever advanced any of these interpretations during prosecution of the original application or during the IPRs.

60.   Moreover, a POSITA would understand, after reviewing the intrinsic record, that none of Samsung's three proposed meanings is consistent with the record. Each of these proposed meanings focuses on what the representation "represents" (either a single function or multiple functions) and how the represented function is activated. Yet limitation 1[b] does not address whether the representation "represents" either a single function or multiple functions; that concept is addressed in limitation 1[a], which encompasses one or more functions. And the intrinsic record

24

consistently indicates that limitation 1[b] does not address how a represented function is activated—that element is addressed by limitation 1[c].

61.   Furthermore, each of them fails for additional reasons. Samsung's "first meaning" (single function/only one specific gesture) fails because limitation 1[b] does not require that the representation represent a single function (that is addressed in limitation 1[a], which permits representation of multiple functions). Nor does it require that there be only "one specific input gesture" that will activate the function. Samsung's "second meaning" (multiple functions/one specific gesture per function) fails because limitation 1[b] does not recite that "only one specific input gesture will activate one function, but a different input gesture activates a second function." Nothing in the claim or specification supports this reading, which limitation 1[b] was added expressly to overcome. This interpretation also does not meaningfully address the actual language of limitation 1[b], which restricts the options that are presented to the user. And Samsung's "third meaning" (single function/multiple gestures) fails because (again) limitation 1[b] does not require that the representation represent a single function. A POSITA would not have read "only one option" to refer to the activation gesture (as shown above), and, in any event, would not have read "only one" to include "multiple." In summary, a POSITA would not understand limitation 1[b] to have any of the "meanings" that Samsung assigns to it.

62.   Prof. Cockburn also asks whether limitation 1[b] "limit[s] the representation to a single visual aspect?" Ex. 2, ¶41. The answer is no. As Prof. Cockburn acknowledges, the claim does not explicitly require a specific visual component, and I am aware of nothing in the intrinsic record that would suggest that the claim is limited to a single specific graphical depiction of a representation of a function. A POSITA would not be confused as to whether the representation must be affixed to the handheld device (it need not be), or as to whether the claim encompasses software generated representations (it does), or as to whether it limits the range of functions displayed within the representations (it does not).

63.   Prof. Cockburn also states that "the claim is unclear whether the 'only one option' requires that the user interface be programmed to recognize only a single type of user gesture (such as a tap, a drag-left, a drag-right, or a long press) to activate a given function, or that the claim instead requires that only a single gesture (of any kind) is used to activate the function." Ex. 2, ¶42. For the reasons set forth above, including that the intrinsic record is clear that limitation 1[b] does not address *how* a function is activated, a POSITA would not understand limitation 1[b] to have either of these meanings. The claim would therefore not be "unclear" to a POSITA.

64.   Prof. Cockburn also opines that a POSITA would not know whether limitation 1[b] "is intended to: (a) *limit the number of functions* associated with the representation (*i.e.*, only a single function is associated with the representation (no other function is associated with the representation)), but the function may be activated by multiple types of gestures, (b) allow for multiple functions associated with the representation, but the disputed term *limits the way in which each function is activated* to one gesture (*i.e.*, no other gesture can activate the function, but, if the representation also corresponds to a second function, a second, different gesture (and only that gesture) in connection with the representation would activate that second function), or (c) limit both the number of functions and number of ways in which the function is activated (*i.e.*, the phrase limits the representation to only one function and only one way of activating (one gesture) that one function)." Ex. 2, ¶43 (emphasis in original). For the reasons set forth above, including that the intrinsic record makes it clear that limitation 1[b] does not address the number of functions with which a representation may be associated (that is addressed in limitation 1[a]), and that limitation 1[b] does not address *how* a function is activated, a POSITA would not ascribe any of these meanings to limitation 1[b].

65.   For all of these reasons, a POSITA would, in 2002 and today, understand with reasonable certainty what limitation 1[b] means, in line with its plain and ordinary meaning: ***the***

representation consists of only one option for activating one of the one or more functions at any given time.

B.   "gliding" (claims 1, 12) / "the object gliding along the touch sensitive area" (claim 1) / "gliding the object along the touch sensitive area" (claim 12)

Plaintiff's Proposed Construction	Defendants' Proposed Construction
Plain meaning, not including a drag-and-drop operation.	Indefinite.

66.   It is my opinion that the terms "gliding" / "the object gliding along the touch sensitive area" / "gliding the object along the touch sensitive area" (the "gliding terms") as used in the claims of the '879 Patent have their plain and ordinary meaning, not including a drag-and-drop operation. It is further my opinion that a POSITA, in 2002 as today, would understand the meaning of "gliding" as used in claims 1 and 12 with reasonable certainty.

1.   The Intrinsic Record

67.   Here, the intrinsic record provides a POSITA with ample guidance as to what "gliding" means. First, the claims use "gliding" according to its ordinary meaning: a smooth, continuous movement across or along a surface. Ex. 9 (Concise Oxford Eng. Dict.) at 602; Ex. 10 (Merriam-Websters Coll. Dict.) at 495; Ex. 11 (Oxford Eng. Dict.) at 306; Ex. 12 (Am. Heritage Coll. Dict.) at 579. This does not include a "flicking" gesture, which is a sharp, quick movement. Ex. 9 at 542; Ex. 10 at 445-46; Ex. 11 at 273; Ex. 12 at 520.

68. As I noted in my declaration submitted in the Google IPR:

Dictionary definitions, both at the time of Robertson in 1991 and at the time of filing of the '879 patent in 2002, define "flick" and "glide" differently: a "glide" is a "smooth," and "effortless" motion while a "flick" is a "sudden," "sharp" and "jerky" motion. Exemplary dictionary definitions are produced below:

Dictionary		"Flick"	"Glide"
Merriam Webster [Ex. 2052]	1993	"a light sharp jerky stroke or movement"	"to move smoothly continuously and effortlessly"
American Heritage College Dictionary [Ex. 2050]	1997	"a light quick blow, jerk or touch"	"to move in a smooth effortless manner"
Oxford English Dictionary [Ex. 2057]	2002	"make or cause to make a sudden sharp movement"	"move with a smooth, quiet, continuous motion"
Oxford English Dictionary [Ex. 2049]	2012	"make a sudden sharp movement"	"move with a smooth quiet motion"

Ex. 13, p. 34. I also provided pictorial examples of common usage of the terms "flick" and "glide" illustrating in a variety of contexts how different they were. *Id*., pp. 34-36.

69.   Prof. Cockburn criticizes these definitions on the ground that they are not from technical dictionaries. Ex. 2, ¶84. However, these are not technical terms of art. A POSITA understands what these terms mean in ordinary English usage, and would have no difficulty understanding them within the context of claims 1 and 12 and in light of the complete intrinsic record. While Prof. Cockburn focuses substantial attention on particular questions that a programmer or product designer might have to answer in programming a product to recognize and respond to input corresponding to these gestures, those questions do not detract from the fact that a POSITA would understand what the terms mean.

70.   A POSITA would also understand that "gliding" does not include a "drag"/"drag-and-drop" gesture, which connotes a logical and (typically) visual dragging of an element across a display in order to drop it into a specific area.

71.   Prof. Cockburn also cites to several references that, he claims, suggest that "the delineations Neonode is drawing between glide/swipe/drag and flick are arbitrary . . . ." Ex. 2, ¶¶86-88. None of these references reflect a generally-understood usage in the technical art for the purposes for which Prof. Cockburn is citing them, and none of them appear to have been cited during prosecution of the application that issued as the '879 Patent. So, I understand that these

references are all extrinsic evidence. A POSITA would not find them to offer useful guidance with respect to the construction of "gliding."

72.   The '879 Patent's specification describes, in one embodiment, the gesture used to activate the predefined functions 21, 22, and 23: "FIG. 2 shows that any one of these three functions 21, 22, 23 can be activated when the touch sensitive area 1 **detects a movement of an object 4 with its starting point A within the representation of a function on the menu area 2 and with a direction B from the menu area 2 to the display area 3**." Ex. 1 at 4:7-13 (emphasis added). Figure 2 provides an accompanying illustration to this disclosure:
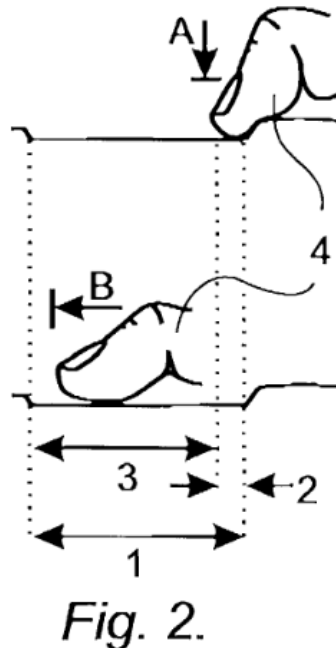

Figure 1: '879 Patent, fig. 2

73.   As can be seen in Fig. 2, a user places her finger on the display of the mobile handheld computer unit and then moves her finger across the display, maintaining continuous contact across an appreciable portion of the display. A POSITA would distinguish this gliding gesture from a flicking gesture partly due to the distance that a user's finger would travel in, *e.g.*, Fig. 2.

74.   In addition, nothing in the specification suggests that the representations of functions 21-23 are "dragged" into the display area and then "dropped," as in a conventional drag-

and-drop operation.. First, the specification for the '879 Patent never suggests that, *e.g.*, the predefined functions 21, 22, and 23 are dragged by the user into the display area of the unit. In fact, the specification's disclosure of "printed" representations specifically teaches away from a reading of the patent that would suggest "dragging" or "dragging-and-dropping" applying to, *e.g.*, representations of the predefined functions 21, 22, and 23 on the unit's display. Ex. 1 at 6:17-22 ("According to one preferred embodiment of the present invention the computer unit is covered with an enclosure 5, which is provided with an opening 51 for the display area 3, and where the **representations of the menu area 2 is printed on top of the enclosure** 5.") (emphasis added). Since the specification teaches that the representations may be "printed on top of the enclosure," a POSITA would understand that the printed representations of the embodiment could not be dragged or dragged-and-dropped onto the display as it would be impossible to drag or drag-and-drop physically-printed buttons into the software-rendered display area.

75.   The prosecution file provides further guidance to a POSITA concerning the recited "gliding." At one point, application claim 1 recited "moving in a direction from a starting point that is the representation [of a function] . . . to said display area . . . ." Ex. 5 (Prosecution History) at 507. To demonstrate the novelty of the invention, the applicant provided the Examiner with a link to Neonode's promotional video for what I understand was a commercial embodiment covered by claim 1, the Neonode N2 phone. *Id*. at 520-21; Ex. 14 (N2-Advertisement-Video). I have reviewed this demonstration video, which demonstrates a user activating functions on the N2 phone. In the video, several still images of which are shown below, the recorded user is shown activating functions on the device by pressing their finger to the display and then moving their thumb upwards along the display in one continuous gliding motion. Ex. 14 at 0:26-0:27.
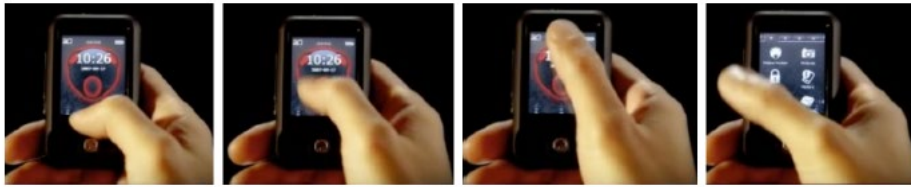
76.   A POSITA would understand that this movement of the user's thumb embodies the movement depicted in Figure 2 of the '879 Patent. No touched icon moves with the user's thumb, as would typically be the case in a drag-and-drop operation. And, as shown by the video, the movement is a smooth glide. A POSITA would not have viewed the gesture in the video as comprising a "flicking" gesture at least because the user's thumb moves in a continuous, smooth motion. It is my opinion that a POSITA would understand the demonstrated gesture of the video, in view of the patent's disclosures, to represent a "gliding" motion and to be easily distinguishable from either a "flick" or a "drag-and-drop."

77.   After reviewing the video, the examiner stated that he could "now see the difference between the prior art of record and the present application," but that the claims were "still too broad to suggest without research what was shown in the video demonstration." Ex. 5 at 498. In response, the applicant narrowed the claim from "moving" to a specific type of movement: "gliding along the touch sensitive area away from the location [of the representation of a function]." *Id.*, 405. The applicant explained that "[t]he subject claimed invention teaches 'rubbing', 'touch-and-glide' movements to operate a user interface, whereby the thumb touches a touch-sensitive screen and rubs, or glides, along the screen without lifting the thumb," as illustrated in Figure 2. *Id.*, 425-26. Subsequently, the applicant again equated the "gliding" motion with swiping or rubbing, stating that the gesture is conducted "without lifting the finger" from the display. *Id.*, 348. The applicant also noted the original specification support for this amendment which provided, among other disclosures, references to the "menu area 2 is adapted to present a representation of a first 21, a second 22 and a third 23 predefined function" and "[t]he first function

31

21 is a general application dependent function, the second function 22 is a keyboard function, and the third function 23 is a task and file manager." *Id.*, 729.

78.   During prosecution, the applicant also specifically distinguished the "gliding" gesture from the "drag-and-drop" gesture of the Hoshino prior art reference. During prosecution, the applicant stated that the claimed "gliding" gesture is different from a "conventional" drag-and-drop operation:

> Hoshino does not teach gliding a finger away from an icon. Instead, Hoshino teaches a
> drag-and-drop operation for moving an icon.

Id., 250 (emphasis in original). In a table, the applicant summarized the distinction between Hoshino's "conventional" "drag-and-drop" "operation" and the invention's "novel" "touch-and-glide" operation:

Some distinctions between claimed invention and Hoshino		
	Claimed invention	**Hoshino**
Objective	Novel touch-and-glide user interface operation	Discriminate between two conventional operations; namely, (1) touch, and (2) drag-and-drop

Id., 249 (annotations added).

79.   I understand that when an Applicant makes unequivocal statement about what is not included in the scope of the claim, courts have found such statements to be prosecution disclaimers, which means that the claim should be interpreted to exclude the disavowed aspect. I further understand that regardless of whether or not the applicant's statements during prosecution raise to the level of prosecution disclaimer, they are relevant in informing the POSITA regarding the meaning and scope of the claims.

80.   Prof. Cockburn states that "nothing in the intrinsic evidence provides any guidance as to the boundaries of the claimed 'gliding' that would allow a POSITA to make the distinctions Neonode asserted in the IPRs, namely how to distinguish when a gesture is a 'glide,' and when it

is instead a 'flick' or a 'drag.'" Ex. 2, ¶56; *see also* ¶63. In light of the clear guidance provided in the claim language, the specification and the prosecution file, I disagree with Prof. Cockburn in this regard. In addition, as noted below, further guidance was provided by Neonode's arguments and my declarations submitted during the IPRs.

81.   In a similar vein, Prof. Cockburn asserts that "[n]othing in the intrinsic evidence distinguishes a drag from a glide, for example, and nothing in the claims preclude a subsequent 'drop' following the 'glide' of the claim." Ex. 2, ¶ 75. But this ignores the specification, which teaches an embodiment in which the representations are printed onto the enclosure and therefore could not possibly be either "dragged" or "dropped." It also ignores the fact that nothing in the claims or any embodiment described in the specification suggests that any representation is "dropped" following the touch-and-glide operation of claim 1.

82.   Prof. Cockburn also asserts that the "gliding operation" only describes the movement of an object along the display, and that "at least the 'and-drop' part of a 'drag-and-drop operation' typically refers to actions performed by the user interface, not just the user." *Id*. Prof. Cockburn concludes from this that "the action of the user 'gliding' a finger or pen 'along the touch sensitive area' does not preclude a 'drag-and-drop' response from the user interface." *Id*. This appears to be just another way of saying that a "gliding" operation and a "drag-and-drop" operation may share some overlapping movement. However, what is important, as both I and Neonode's counsel explained during the Samsung IPR, is that there are fundamental differences between the two in terms of both the movement of an object on a display and the functions performed by a system programmed for the two operations.

83.   Prof. Cockburn makes a number of statements in his declaration to the effect that the plain meaning of the pertinent terms, the specification and the prosecution file offer no guidance to a POSITA as to how to distinguish between a "glide", a "flick" and a "drag-and-drop." As should be apparent from the above, I disagree with Prof. Cockburn's statements in that regard

and believe that a POSITA would find sufficient guidance in the intrinsic record as to the meaning of scope of the "gliding" terms.

84.   In light of the intrinsic record as outlined above, a POSITA would understand that the claimed "gliding" includes neither a "flick" nor a "drag-and-drop," and would have no trouble distinguishing "gliding" from either of the other two operations.

2. The IPRs

85.   I have also considered the record in the two IPR proceedings in forming my opinions. Based upon my recollection and review of the record in each of those proceedings, I believe that the record provides additional useful guidance concerning the recited "gliding" of the claims.

86.   Prof. Cockburn contends that Neonode asserted that gliding and dragging are distinct, but failed to articulate what makes a glide distinct from a drag. Ex. 2, ¶58. I disagree. In fact, in Neonode's Patent Owner's Response, in my accompanying declaration, and in Neonode's Sur-Reply filed in the Samsung IPR, Neonode repeatedly explained what distinguished the claimed "gliding" from the "drag-and-drop" operation of Samsung's Hirayama307 reference, U.S. Patent No. 5,406,307. For example Neonode explained that:

> Hirayama-307's user *drags* an application icon 43 *from* its location within *the hatched area 45* into the non-hatched area, and then *drops it into the non-hatched area* at the specific location where the user wants the application icon 41, by then "enlarged" into window 43, to be placed.

Ex. 15 (Samsung IPR POR), p. 26 (emphasis in original). As both I and Neonode further explained, visual feedback is typical but is not a necessary element of a drag-and-drop operation. What is important is that, "[f]rom the perspective of the user, some form of Hirayama-307's dialing application is logically dragged (and behaves as if it is being logically dragged) with the movement of the stylus, and is dropped at the location where the stylus leaves the screen." Ex. 15, p. 27; Ex.

16, ¶61. This was "the very thing [the applicant] made clear did not constitute 'gliding . . . away.'"

Ex. 15, p. 26. Similarly, in its Sur-Reply, Neonode explained that Hirayama307 entails "a

'dragging operation' in which an icon is dropped at a specific, user-chosen, location," and that this

gesture "has nothing to do with swiping or gliding." Ex. 17, pp. 16, 18. A POSITA would not be

confused by this; Neonode explained what distinguished a drag-and-drop operation from the

claimed "gliding."

   87. Similarly, in my declaration filed by Neonode in the Samsung IPR, I provided

approximately eight pages of analysis concerning why the drag-and-drop operation of the

Hirayama307 reference asserted by Samsung in the IPR did not disclose the "gliding" of claim 1.

After surveying the relevant portions of the intrinsic record, I concluded:

> Based on my overall review of the claim language, the specification and the prosecution
>
> history, it is my opinion that a POSITA would have understood that "gliding … away"
>
> does not encompass a drag-and-drop operation.

Ex. 16, ¶57. That is still my opinion today.

   88. In explaining why Hirayama307 disclosed a drag-and-drop operation rather than a

gliding operation, I provided additional explanation as to what identifies an operation as a drag

and drop:

> Specifically, when the user wishes to use Hirayama-307's dialing application, he/she
>
> moves the stylus to the application icon 41. Ex. 1006 [Hirayama-307] 2:1-4; 5:30-32. The
>
> user then drags the icon outside of the hatched area, into the non-hatched area. *Id*., 2:5-8;
>
> 5:39-53. As the icon 41 is dragged outside of the hatched area, it is "enlarged as a window
>
> 43." *Id*., 2:8-13; 5:59-66. The enlarged window 43 is then placed (*i.e.*, dropped) at the
>
> location within the non-hatched area where the user lifts the stylus. *Id*., 2:8-13; 5:59-66.

Ex. 16, ¶59. I then provided a graphical illustration of the drag-and-drop operation of

Hirayama307:
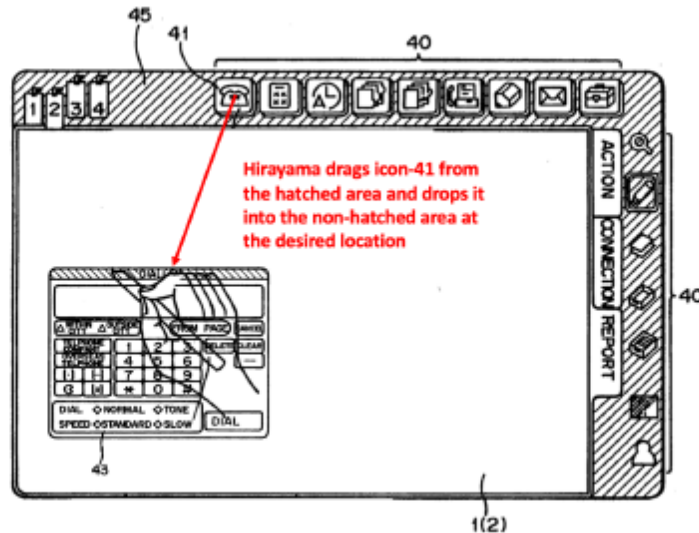
Id.

89. I then explained:

That Hirayama-307 changes the size of icon 41 into an enlarged window 43 does not change the nature of its operation as a drag-and-drop operation. Many drag-and-drop operations may result in a change in the graphical user display of the item being dragged as a result of drag-and-drop. For example, a file may be dragged across the screen into an open application window, which results in the file opening. As another example, when a file is dragged from the desktop into the trash bin of an operating system, the icon may change its appearance inside the trash bin. As another example, the prosecution Hoshino (see infra) also opened a new window as a result of the drag-and-drop gesture.

Ex. 16, ¶60. And in the next paragraph, I further explained:

It should also be noted that while Petitioner disputes whether Hirayama-307 provides feedback to the user by visually showing icon 41 as being dragged during the entirety of the dragging process, Pet., 60-62, this is irrelevant to the fact that Hirayama-307's gesture is a drag-and-drop operation. From the perspective of the user, some form of Hirayama-307's dialing application is logically dragged (and behaves as if it is being logically

dragged) with the movement of the stylus, and is dropped at the location where the stylus

leaves the screen. It is true that, as I will explain in paragraphs 81-82, it was (and is)

preferable in most instances to have an icon be visually shown as moving or being

duplicated during "drag-and-drop" as the user moves the stylus/finger in order to provide

feedback to the user. However, if a GUI, for any reason, does not provide interim feedback

to the user by visually showing the icon actually moving with the stylus/finger, that does

not change the nature of the operation as a drag-and-drop operation.

Id., ¶61.

90.   In that same declaration, I also noted that "Hirayama-307's drag-and-drop

operation is also functionally identical to the drag-and-drop operation disclosed by the prosecution

Hoshino reference to activate an icon." *Id.*, ¶62. As I explained, in Hoshino the "user activates a

music icon by dragging the icon to a designated area, resulting in a larger window opening." *Id.*,

¶63. I included an illustration of Hoshino's drag-and-drop operation:

Hoshino Fig. 19 (partial)
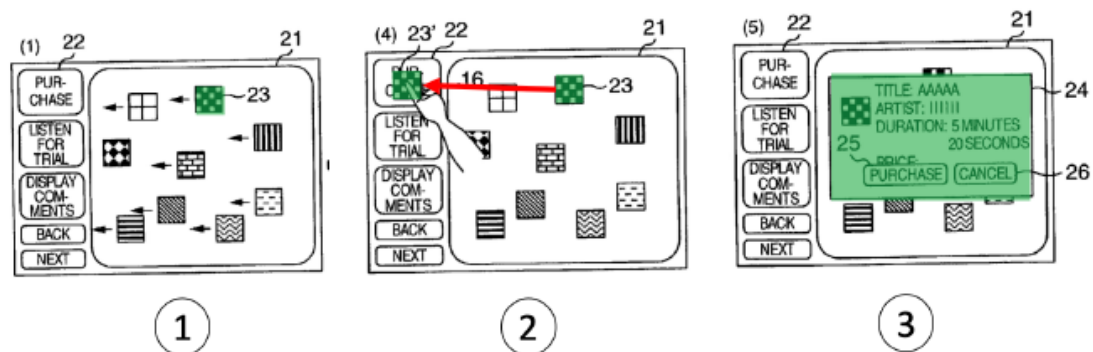
Ex. 16, ¶62.

91.   In light of the above, as well as the knowledge of a POSITA concerning the

characteristics of a drag-and-drop operation, a POSITA would have understood that the claimed

"gliding" did not include a drag-and-drop and would have understood what distinguishes the two

with reasonable certainty.

92.   Prof. Cockburn also attempts to suggest a lack of clarity by quoting certain portions of the hearing transcript in the Samsung IPR in which Neonode's counsel addressed the differences in the movement across the screen between a "glide" and a "drag." For example, he points to a portion of the hearing transcript in which Neonode's counsel stated that "dragging is much more intensive, harder and laborious, whereas a glide is much more seamless and effortless." Ex. 2, ¶58. Prof. Cockburn then states that these are not "terms of art that a POSITA would be able to use to identify the boundary between a "glide" and a "drag" with reasonable certainty." *Id*. However, this misses the point—a POSITA would not need a precise definition of the level of intensity that would distinguish a "glide" from a "drag" in order to understand the difference between the type of movement used for the two operations. Notably, Judge Howard, the judge questioning Neonode's counsel on this point, stated that he understood the distinction that Neonode's counsel was drawing:

> JUDGE HOWARD: So I think I've now got an answer that I've been trying to get to. So the difference is in the type of the effort that's being applied, so it's something that would be visible, for example. You could -- . . . look at something and determine if it's, sort of, sweeping along that's a glide and if it's a more harder, slower movement that would be -- . . . not a glide. So is that what you're trying to get to?
>
> MR. HENDIFAR: That's one aspect, absolutely. Also other aspects maybe there. As Judge Ogden said there may be an aspect about the specific location in a drag that you have to choose whereas a swipe or a glide is a much more generic movement. But again, it comes out to Petitioners have to point out what is a glide on whether drag discloses it, but that aside, Your Honor is correct that the nature of the movement is distinct between the two.

Ex. 18 (Samsung IPR Hearing Tr.) at 53:5-20.

93.   Moreover, Prof. Cockburn omits any mention of other portions of the same hearing transcript in which Neonode's counsel articulated additional distinctions between a glide and a

drag-and-drop. For example, Neonode's counsel stated in the same portion of the hearing that one aspect of the distinction is that, "in a drag-and-drop operation you're saying that the beginning and ending point is significant, whereas in a glide operation the endpoint is not significant," and in a drag-and-drop operation "you're selecting an icon then you're moving it to a precise location." Ex. 18 at 44:6-17; 46:1-8.

94.   In addition, during the hearing Neonode 's counsel repeatedly referred the PTAB judges to the demonstration video in order to understand the differences between "gliding" and "dragging-and-dropping." *Id*. at 44:10-45:25. Neonode's demonstrative exhibits provided further guidance as to the distinctions:
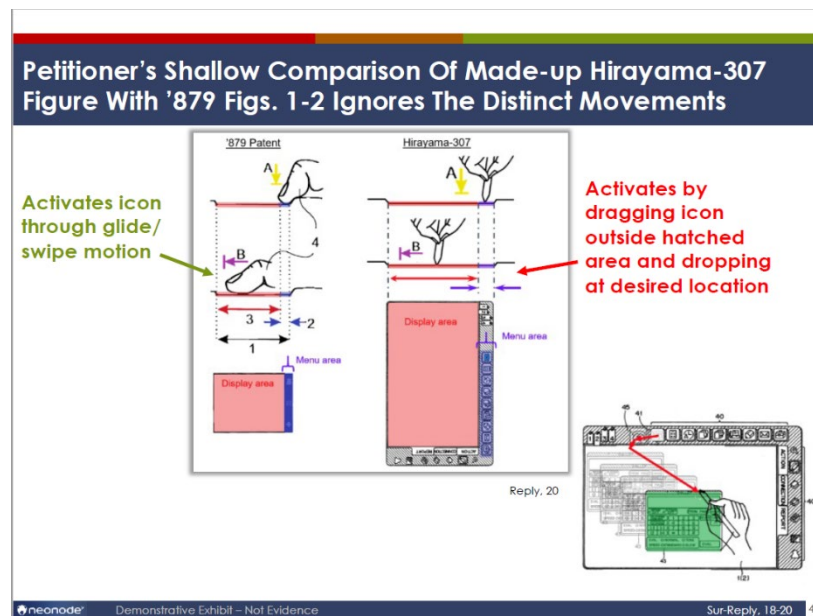
Ex. 19, slide 48; *see also* slides 38, 43, 49. So contrary to Prof. Cockburn's assertion, a POSITA reviewing the IPR record would not conclude that Neonode's IPR arguments created confusion as to the fact that the claimed "gliding" excludes a drag-and-drop operation and as to how to understand what a drag-and-drop operation is.

95.   Prof. Cockburn also asserts that I "agree[d]" that the action of a finger is the same for a glide, flick, and drag. Ex. 2, ¶62. This is grossly untrue—in fact, I said the opposite. With respect to a "flick," I said that while a flick may require "at least one pixel worth of movement,"

"gliding is a relatively slower, smoother, and longer motion, while flick is a sharper, faster and shorter movement." Ex. 20, 21:21-22:21. And with respect to a drag-and-drop, while Samsung and Prof. Cockburn quote me as "stating a 'glide' and a 'drag' 'may have overlapping movements,'" the full paragraph from which they pulled this statement makes it clear that I was emphasizing the *distinction* between those operations:

> The distinction between "gliding … away" and a drag-and-drop gesture is material, even though they may have overlapping movements. In the field of human computer interaction, even small differences between gestures can have substantial consequences. Notably, and as discussed in greater detail in paragraphs 38-49 Neonode's N1 and N2 phones were widely praised for their intuitive gliding feature. *See also, e.g.*, Exs. 2012, 2013 (praising the swiping feature, calling it "simple and brilliant"). It is most unlikely that Neonode's phones would have received such praise if they replaced their seamless gliding functionality with a cumbersome drag-and-drop operation as shown in Hirayama-307.

Ex. 16, ¶65. Moreover, as noted above, this explanation follows several pages of explanation as to why Hirayama307's drag-and-drop operation is distinct from the claimed "gliding." *Id*., ¶¶57-65. So, a POSITA could not reasonably read my statements in the IPR and conclude that I "agree" with Samsung's and Prof. Cockburn's stated positions.

96.   Prof. Cockburn also states that none of the "parameters" for distinguishing a flick from a glide "find support in" the intrinsic record. Ex. 2, ¶¶59-60. As shown above, this is incorrect; among other things, Figure 2 of the specification clearly delineates the claimed movement from a flick, and the demonstration video submitted during prosecution provides further guidance. However, Prof. Cockburn's attempt to define a set of precise boundaries differentiating a flick from a glide is misguided, because a POSITA would have no difficulty differentiating between the two within the context of the '879 Patent claims.

40

97.   Prof. Cockburn also contends that the patent's teaching concerning a different aspect of the invention—involving scrolling through a list of files or applications—would cause a POSITA to conclude that "speed is not relevant" to "gliding." Ex. 2, ¶67. Prof. Cockburn does not explain why a POSITA would arrive at such a conclusion; more likely, a POSITA would conclude that a discussion of speed of movement in one aspect of the invention says nothing about whether it is material to a different aspect of the invention. In any event, as shown above, the complete intrinsic record, including the video submitted to the examiner, provides guidance (to the extent it were necessary) concerning the "speed" parameter of "gliding."

98.   Prof. Cockburn also contends that Neonode "has not cited any evidence that a POSITA in December 2002 … understood whether or how" gliding, flicking, or dragging could be distinguished. Ex. 2, ¶71. However, this ignores the specification of the '879 Patent, which illustrates the user's thumb moving across the display in a manner inconsistent with a "flick," and also ignores that an embodiment of the invention disclosed representations that were printed onto the enclosure of the device, which is inconsistent with "dragging" the representations into the display area. Moreover, it ignores the fact that a POSITA in 2002 would have known how to distinguish between a "glide," a "flick" and a "drag-and-drop." In addition, since it is my understanding that the prosecution file is also relevant, a POSITA would have understood that Hoshino's drag-and-drop operation was not within the scope of the claimed "gliding." Furthermore, as discussed above, in both the Samsung and Google IPRs, Neonode submitted additional evidence concerning how a POSITA would have distinguished "gliding" from "flicking" or "dragging."

99.   In addition, a POSITA would note that when Google made essentially the same argument Samsung makes here—that Neonode could not "delineate the boundary between" a glide and a flick—the PTAB rejected it. Ex. 23 (Samsung IPR Pet. Reply) at p. 8; Ex. 21 (Google IPR Final Written Decision) at pp. 26-27 & n.8. The PTAB noted that, "[t]o the extent there is any

41

ambiguity in the term, it does not rise to the level that "'the term or terms chosen by the patentee so deprive the claim of clarity that there is no means by which the scope of the claim may be ascertained from the language used.'" Ex. 21, pp. 26-27. The PTAB further recognized that a flick and a glide are distinct:

> The evidence suggests that the distinction between a 'flick' and a 'glide' may involve a number of considerations such as the size of the screen and whether the pointing object is a finger or stylus. Ex. 1031, 27:15–29:6. This does not mean that a person of ordinary skill in the art, applying those considerations, would have been unable to distinguish between a 'flick' and a 'glide' or that the distinction is arbitrary.

Id. at 26 n.8.

100.   Consistent with my understanding, the PTAB also expressly rejected Samsung's argument that that there is no evidence of how "a POSITA in December 2002 … understood whether or how" gliding, flicking, or dragging could be distinguished:

> We also find persuasive Neonode's dictionary definitions, spanning from 1993 to 2012, which consistently indicate that the word flick describes a movement that is "light," "sharp" or "quick," and "jerky" or "sudden," as opposed to definitions of "glide" referring to a movement that is "smooth," "continuous," and possibly "quiet" or "effortless."

Id. at 28. Further, the PTAB noted that the definitions of "glide" referred to "a movement that is 'smooth,' 'continuous,' and possibly 'quiet' or 'effortless'" which also comports with my opinion as a POSITA. *Id*.

101.   The PTAB in the Google IPR also supported this understanding of a glide gesture. When Google argued that Neonode could not delineate between a "glide" and a "flick," the PTAB responded that simply because there may be a "number of considerations" in distinguishing, as the evidence suggested, a flick gesture from a glide gesture, that a POSITA applying those

42

considerations would not have been unable "to distinguish between a 'flick' and a 'glide'" or that "the distinction is arbitrary." Ex. 21 at 26 n.8.
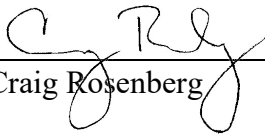
102.   Similarly, the PTAB in the Google IPR "agree[d]" with Neonode about the applicant's intent to distinguish between "drag-and-drop" and a glide/swipe gesture. Ex. 21 at 26. The Panel noted that the applicant "clearly intended the claims … to cover what is known today as a 'swipe' gesture … as distinguished from a prior-art drag-and-drop operation." *Id*. The PTAB, upon reviewing the prosecution record including the Neonode N2 phone video, noted that it "agree[d] with Neonode that a person of ordinary skill in the art would have interpreted the phrase gliding … away to reflect a swiping gesture that is more specific than merely an on-screen movement from one location to another." *Id*. In my opinion, the PTAB's remarks in the Google IPR comport with and are supportive of my opinion concerning what a POSITA would understand as to the distinction between "drag-and-drop" gestures and the patent's "glide" gesture.

103.   In view of the foregoing, it is my opinion that a gliding gesture is materially distinct from both a drag-and-drop and flick gestures and that a POSITA would have found the IPR proceedings informative, at least for their multiple disclosures comparing and contrasting the three varieties of user interaction.

104.   For the reasons set forth above, it is my opinion that the terms "gliding" / "the object gliding along the touch sensitive area" / "gliding the object along the touch sensitive area" (the "gliding terms") as used in the claims of the '879 Patent have their plain and ordinary meaning, not including a drag-and-drop operation.

I declare under penalty of perjury under the laws of the United States of America that the

foregoing is true and correct.

Date: May 19, 2023

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Craig Rosenberg